

WHAT IS CLAIMED IS:

1. A video conference and video telephone system
which includes transmission and reception apparatuses
for performing communication of two audio signals of L
and R channels, wherein

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said transmission apparatus comprises

transmission means for transmitting data
obtained by addition of the two audio signals as first
audio data through a first communication channel, and
transmitting data obtained by subtraction of the two
audio signals as second audio data through a second
communication channel, and

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said reception apparatus comprises

reception means for receiving the data
obtained by the addition of the two audio signals as
the first audio data and the data obtained by the
subtraction of the two audio signals as the second
audio data, and

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restoring means for restoring the audio
signal by performing an arithmetic operation on the
basis of the audio data received by said reception
means.

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2. A system according to Claim 1, wherein

the first audio data represents monaural audio and
the second audio data represents stereo audio,

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said transmission means of said transmission

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apparatus transmits, according to whether an audio source of said transmission apparatus is the stereo audio or the monaural audio, a change of the audio source to said reception apparatus, and

5 said restoring means of said reception apparatus restores the audio signal on the basis of the first audio data obtained by the addition of the two audio signals and the second audio data obtained by the subtraction of the two audio signals when the audio
10 source of said transmission apparatus is the stereo audio, and restores the audio signal on the basis of only the first audio data obtained by the addition of the two audio signals when the audio source of said transmission apparatus is the monaural audio.

15 3. A system according to Claim 1, wherein said transmission means of said transmission apparatus transmits the number of audio channels of said transmission apparatus to said reception apparatus, as
20 describing it at a source description of an RTCP (real time control protocol) packet.

25 4. A system according to Claim 1, wherein said transmission means of said transmission apparatus transmits a type of audio input device of said transmission apparatus to said reception apparatus, as describing it at a source description of an RTCP

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5. A system according to Claim 1, wherein each of said transmission apparatus and said reception

(International Telecommunication Union
Telecommunication standardization sector)

6. A system according to Claim 1, wherein
said transmission means of said transmission
apparatus adjusts the number of channels to be used for
the transmission, according to the kind of audio source
of said transmission apparatus, and

7. A transmission apparatus comprising:
first generation means for generating packet data
obtained by addition of two audio signals of L and R
channels;

second generation means for generating packet data obtained by subtraction of the two audio signals; and

transmission means for transmitting the packet data generated by said first generation means through a first communication channel, and transmitting the packet data generated by said second generation means through a second communication channel.

8. A reception apparatus comprising:

reception means for receiving packet data obtained by addition of two audio signals of L and R channels and/or packet data obtained by subtraction of the two audio signals; and

restoring means for restoring the audio signal by performing an arithmetic operation on the basis of the packet data received by said reception means.

9. An apparatus according to Claim 8, wherein

said restoring means restores a stereo audio signal on the basis of the packet data obtained by the addition of the two audio signals and the packet data obtained by the subtraction of the two audio signals when stereo audio is restored, and restores a monaural audio signal on the basis of only the packet data obtained by the addition of the two audio signals when monaural audio is restored.

10. A communication apparatus comprising:

transmission means for transmitting packet data

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a first generation step of generating packet data
obtained by addition of two audio signals of L and R
channels:

a second generation step of generating packet data obtained by subtraction of the two audio signals; and

a transmission step of transmitting the packet data generated in said first generation step through a first communication channel, and transmitting the packet data generated in said second generation step through a second communication channel.

13. A communication method comprising:

(a) a step of receiving packet data obtained by addition of two audio signals of L and R channels and/or packet data obtained by subtraction of the two audio signals; and

(b) a step of restoring the audio signal by performing an arithmetic operation on the basis of the packet data received in said reception step (a).

14. A communication method comprising:

(a) a step of transmitting packet data obtained by addition of two audio signals of L and R channels through a first communication channel, and transmitting packet data obtained by subtraction of the two audio signals through a second communication channel;

(b) a step of receiving the packet data obtained by the addition of the two audio signals of the L and R channels and/or the packet data obtained by the subtraction of the two audio signals; and

(c) a step of restoring the audio signal by performing an arithmetic operation on the basis of the packet data received in said reception step (b).

5 15. A recording medium which stores a program to cause a computer to execute following procedures:

 the first generation procedure of generating packet data obtained by addition of two audio signals of L and R channels;

10 the second generation procedure of generating packet data obtained by subtraction of the two audio signals; and

 the transmission procedure of transmitting the packet data generated in said first generation
15 procedure through a first communication channel, and transmitting the packet data generated in said second generation procedure through a second communication channel.

20 16. A recording medium which stores a program to cause a computer to execute following procedures:

 (a) the procedure of receiving packet data obtained by addition of two audio signals of L and R channels and/or packet data obtained by subtraction of
25 the two audio signals; and

 (b) the procedure of restoring the audio signal by performing an arithmetic operation on the basis of the

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17. A recording medium which stores a program to cause a computer to execute following procedures:

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said transmission apparatus comprises
reception means for receiving, from an
external apparatus, the two audio signals of the L and
R channels and a monaural audio signal,
transmission means for transmitting data

obtained by addition of the received two audio signals
and monaural audio signal as first audio data through a
first communication channel, and transmitting data
obtained by subtraction of the two audio signals as
5 second audio data through a second communication
channel, and

said reception apparatus comprises

reception means for receiving the data
obtained by the addition of the two audio signals and
10 monaural audio signal as the first audio data and the
data obtained by the subtraction of the two audio
signals as the second audio data, and

restoring means for restoring a stereo audio
signal on the basis of the first and second audio data
15 received by said reception means.

19. A communication apparatus which performs
communication with plural external apparatuses,
comprising:

20 reception means for receiving, from the external
apparatus, two audio signals of L and R channels or a
monaural audio signal;

generation means for generating first audio data
by addition of the received two audio signals and
25 monaural audio signal and second audio data by
subtraction of the two audio signals; and

transmission means for transmitting the first and

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in the transmission apparatus, said method comprises

a reception step of receiving, from an external apparatus, the two audio signals of the L and R channels and a monaural audio signal, and

a transmission step of transmitting data obtained by addition of the received two audio signals and monaural audio signal as first audio data through a first communication channel, and transmitting data obtained by subtraction of the two audio signals as second audio data through a second communication channel, and

in the reception apparatus, said method further comprises

a reception step of receiving the data obtained by the addition of the two audio signals and monaural audio signal as the first audio data and the data obtained by the subtraction of the two audio signals as the second audio data, and

a restoring step of restoring a stereo audio signal on the basis of the first and second audio data received in said reception step.

24. A communication method for a communication apparatus which performs communication with plural external apparatuses, comprising:

a reception step of receiving, from the external

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apparatus, two audio signals of L and R channels or a monaural audio signal;

a generation step of generating first audio data by addition of the received two audio signals and
5 monaural audio signal and second audio data by subtraction of the two audio signals; and

a transmission step of transmitting the first and second audio data.

10 25. A method according to Claim 24, wherein said transmission step transmits the first audio data through a first communication channel and the second audio data through a second communication channel.

15 26. A method according to Claim 24, wherein when the external apparatus at a transmission destination in said transmission step corresponds to stereo audio, said transmission step transmits the first and second audio data to said transmission
20 destination, and

when the external apparatus at the transmission destination in said transmission step corresponds to monaural audio, said transmission step transmits the first audio data to said transmission destination
25 without transmitting the second audio data.

27. A method according to Claim 24, further

comprising an image data communication step of transmitting and receiving image data.

28. A program which causes a computer to achieve
5 a communication method comprising:

a first generation step of generating packet data obtained by addition of two audio signals of L and R channels;

10 a second generation step of generating packet data obtained by subtraction of the two audio signals; and

a transmission step of transmitting the packet data generated in said first generation step through a first communication channel, and transmitting the packet data generated in said second generation step
15 through a second communication channel.

29. A program which causes a computer to achieve a communication method for an image communication system which is composed of transmission and reception
20 apparatuses performing communication of two audio signals of L and R channels, wherein

in the transmission apparatus, said method comprises

a reception step of receiving, from an
25 external apparatus, the two audio signals of the L and R channels and a monaural audio signal, and

a transmission step of transmitting data

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obtained by addition of the received two audio signals and monaural audio signal as first audio data through a first communication channel, and transmitting data obtained by subtraction of the two audio signals as second audio data through a second communication channel, and

in the reception apparatus, said method further comprises

a reception step of receiving the data obtained by the addition of the two audio signals and monaural audio signal as the first audio data and the data obtained by the subtraction of the two audio signals as the second audio data, and

a restoring step of restoring a stereo audio signal on the basis of the first and second audio data received in said reception step.